luminosities for red, green and blue.

244. The phosphor structure as set forth in claim 243, wherein the at least first and second phosphor deposits are formed from phosphors of different host materials.

245. The phosphor structure as set forth in claim 244, wherein the set luminosity ratios remain substantially constant over the range of operating modulation voltages.

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246. The phosphor structure as set forth in claim 245, wherein the set luminosities ratios between the red, green and blue sub-pixel phosphor elements is about 3:6:1.

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247. The phosphor structure as set forth in claim 244, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer of a dielectric material or a semiconductor material located in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

248. The phosphor structure as set forth in claim 245, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer of a dielectric material or a semiconductor material located in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

249. The phosphor structure as set forth in claim 246, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer of a dielectric material or a semiconductor material located in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

250. The phosphor structure as set forth in claim 244, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being formed with different thicknesses.

251. The phosphor structure as set forth in claim 245, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being formed with different thicknesses.

252. The phosphor structure as set forth in claim 246, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being formed with different thicknesses.

253. The phosphor structure as set forth in claim 249, wherein the means for setting and

equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being formed with different thicknesses.

254. The phosphor structure as set forth in claim 247, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

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255. The phosphor structure as set forth in claim 248, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

256. The phosphor structure as set forth in claim 249, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

257. The phosphor structure as set forth in claim 250, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

258. The phosphor structure as set forth in claim 251, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

259. The phosphor structure as set forth in claim 252, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

260. The phosphor structure as set forth in claim 253, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

261. The phosphor structure as set forth in claim 260, wherein the at least first and second phosphor deposits are formed from a zinc sulfide phosphor and a strontium sulfide phosphor.

262. The phosphor structure as set forth in claim 261, wherein the blue sub-pixel elements, and optionally the green sub-pixel elements are formed with a strontium sulfide phosphor, and wherein the red sub-pixel elements, and optionally the green sub-pixel elements are formed from one or more zinc sulfide phosphors.

263. The phosphor structure as set forth in claim 262, wherein the strontium sulfide phosphor is SrS:Ce and wherein the zinc sulfide phosphor is one or both of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3.

264. The phosphor structure as set forth in claim 261, wherein the first phosphor is SrS:Ce and the second phosphor is one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises a further layer of SrS:Ce over the first and second phosphor deposits, whereby the blue sub-pixel elements are provided by SrS:Ce and the red and green sub-pixel elements are provided by SrS:Ce and one or both of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn.

265. The phosphor structure as set forth in claim 263, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises a threshold voltage adjustment layer over the red and green sub-pixel phosphor deposits.

266. The phosphor structure as set forth in claim 263, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises the phosphor deposits being formed with different thicknesses.

267. The phosphor structure as set forth in claim 264, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises the phosphor deposits being formed with different thicknesses.

268. The phosphor structure as set forth in claim 265, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises the

phosphor deposits being formed with different thicknesses.

269. The phosphor structure as set forth in claim 263, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises varying the areas of one or more of the sub-pixel phosphor deposits.

270. The phosphor structure as set forth in claim 264, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises varying the areas of one or more of the sub-pixel phosphor deposits.

271. The phosphor structure as set forth in claim 265, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises varying the areas of one or more of the sub-pixel phosphor deposits.

272. The phosphor structure as set forth in claim 268, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises varying the areas of one or more of the sub-pixel phosphor deposits.

273. The phosphor structure as set forth claim 243, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold voltage which the patterned phosphor structure would have without the threshold voltage adjustment layer.

274. The phosphor structure as set forth claim 244, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold voltage which the patterned phosphor structure would have without the threshold voltage adjustment layer.

275. The phosphor structure as set forth claim 272, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold

voltage which the patterned phosphor structure would have without the threshold voltage adjustment layer.

276. The phosphor structure as set forth in claim 275, wherein the threshold voltage adjustment layer is selected from the group consisting of binary metal oxides, binary metal sulfides, silica and silicon oxynitride.

277. The phosphor structure as set forth in claim 275, wherein the threshold voltage adjustment layer is selected from the group consisting of alumina, tantalum oxide, zinc sulfide, strontium sulfide, silica and silicon oxynitride.

278. The phosphor structure as set forth in claim 275, wherein the threshold voltage adjustment layer is selected from the group consisting of alumina and zinc sulfide.

279. The phosphor structure as set forth in claim 275, wherein threshold voltage adjustment layer is matched with the at least first or second phosphor deposits, such that if the phosphor deposit is formed from a zinc sulfide phosphor, the threshold voltage adjustment layer, if needed with that phosphor deposit, is a binary metal oxide.

280. The phosphor structure as set forth in claim 279, wherein the binary metal oxide is alumina when the phosphor deposit is one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3.

281. The phosphor structure as set forth in claim 260, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises an additional phosphor layer deposited in one or more of the positions of over, under and embedded within the at least first and second phosphor deposits, having a same or different composition from the at least first and second phosphor deposits.

282. The phosphor structure as set forth in claim 260, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue sub-pixel elements and a zinc sulfide phosphor providing the red and green sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material in one or more of the positions of over, under and embedded within the zinc sulfide phosphor deposits.

283. The phosphor structure as set forth in claim 282, wherein the phosphors are SrS:Ce, which may be codoped with phosphorus, and $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3, and wherein the threshold voltage adjustment layer is a layer of alumina located over the

$Zn_{1-x}Mg_xS:Mn$ phosphor deposits.

284. The phosphor structure as set forth in claim 260, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue sub-pixel elements and one or more layers of a zinc sulfide phosphor providing the red and green sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is the strontium sulfide phosphor deposits being formed thicker and wider than the zinc sulfide phosphor deposits.

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285. The phosphor structure as set forth in claim 284, wherein the phosphors are SrS:Ce for the blue sub-pixel elements, which may be codoped with phosphorus, and for the red and green sub-pixels, $Zn_{1-x}Mg_xS:Mn$ between layers of ZnS:Mn, with x being between 0.1 and 0.3.

286. The phosphor structure as set forth in claim 260, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue and green sub-pixel elements and a zinc sulfide phosphor providing the red sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material in one or more of the position of over, under and embedded within the zinc sulfide phosphor deposits.

287. The phosphor structure as set forth in claim 286, wherein the phosphors are SrS:Ce, which may be codoped with phosphorus, and ZnS:Mn, and wherein the threshold voltage adjustment layer is a layer of alumina located over the ZnS:Mn phosphor deposits.

288. An EL laminate for use in an AC electroluminescent display, comprising:

a rigid rear substrate;

a patterned phosphor structure comprising:

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at least a first and a second phosphor, each emitting light in different ranges of the visible spectrum, but whose combined emission spectra contains red, green and blue light;

said at least first and second phosphors being in a layer, arranged in adjacent, repeating relationship to each other to provide a plurality of repeating at least first and second phosphor deposits; and

one or more means associated with one or more of the at least first and second phosphor deposits, and which together with the at least first and second

phosphor deposits, form the red, green and blue sub-pixel phosphor elements, for setting and equalizing the threshold voltages of the red, green and blue sub-pixel phosphor elements, and for setting the relative luminosities of the red, green and blue sub-pixel phosphor elements so that they bear set ratios to one another at each operating modulation voltage used to generate the desired luminosities for red, green and blue;

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front and rear column and row electrodes on either side of the phosphor structure, the rows or columns of the front or rear electrode being aligned with the phosphor sub-pixel elements;

a thick film dielectric layer below the patterned phosphor structure formed from a sintered ceramic material having a dielectric constant greater than 500, and having a thickness greater than about 10 μm; and

optionally, optical colour filter means aligned with the red, green and blue phosphor sub-pixel elements for transmitting red, green and blue light emitted from the phosphor sub-pixel elements.

289. The EL laminate as set forth in claim 288, wherein the at least first and second phosphor deposits are formed from phosphors of different host materials.

290. The EL laminate as set forth in claim 289, wherein the set luminosity ratios remain substantially constant over the range of operating modulation voltages.

A1 cont.

291. The EL laminate as set forth in claim 290, wherein the set luminosities ratios between the red, green and blue sub-pixel phosphor elements is about 3:6:1.

292. The EL laminate as set forth in claim 289, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer of a dielectric material or a semiconductor material located in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

293. The EL laminate as set forth in claim 290, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer of a dielectric material or a semiconductor material located in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

294. The EL laminate as set forth in claim 291, wherein the means for setting and

equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer of a dielectric material or a semiconductor material located in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

295. The EL laminate as set forth in claim 289, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being formed with different thicknesses.

296. The EL laminate as set forth in claim 290, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being formed with different thicknesses.

297. The EL laminate as set forth in claim 291, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being formed with different thicknesses.

298. The EL laminate as set forth in claim 294, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being formed with different thicknesses.

299. The EL laminate as set forth in claim 292, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

300. The EL laminate as set forth in claim 293, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

301. The EL laminate as set forth in claim 294, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

302. The EL laminate as set forth in claim 295, wherein, the means for setting and

equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

303. The EL laminate as set forth in claim 296, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

304. The EL laminate as set forth in claim 297, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

305. The EL laminate as set forth in claim 298, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

306. The EL laminate as set forth in claim 305, wherein the at least first and second phosphor deposits are formed from a zinc sulfide phosphor and a strontium sulfide phosphor.

307. The EL laminate as set forth in claim 306, wherein the blue sub-pixel elements, and optionally the green sub-pixel elements are formed with a strontium sulfide phosphor, and wherein the red sub-pixel elements, and optionally the green sub-pixel elements are formed from one or more zinc sulfide phosphors.

308. The EL laminate as set forth in claim 307, wherein the strontium sulfide phosphor is SrS:Ce and wherein the zinc sulfide phosphor is one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3.

309. The EL laminate as set forth in claim 306, wherein the first phosphor is SrS:Ce and the second phosphor is one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises a further layer of SrS:Ce over the first and second

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phosphor deposits, whereby the blue sub-pixel elements are provided by SrS:Ce and the red and green sub-pixel elements are provided by SrS:Ce and one or both of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn.

310. The EL laminate as set forth in claim 308, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises a threshold voltage adjustment layer over the red and green sub-pixel phosphor deposits.

311. The EL laminate as set forth in claim 308, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises the phosphor deposits being formed with different thicknesses.

312. The EL laminate as set forth in claim 309, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises the phosphor deposits being formed with different thicknesses.

313. The EL laminate as set forth in claim 310, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises the phosphor deposits being formed with different thicknesses.

314. The EL laminate as set forth in claim 308, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises varying the areas of one or more of the sub-pixel phosphor deposits.

315. The EL laminate as set forth in claim 309, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises varying the areas of one or more of the sub-pixel phosphor deposits.

316. The EL laminate as set forth in claim 310, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises varying the areas of one or more of the sub-pixel phosphor deposits.

317. The EL laminate as set forth in claim 313, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises varying the areas of one or more of the sub-pixel phosphor deposits.

318. The EL laminate as set forth claim 288, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold voltage which the patterned

phosphor structure would have without the threshold voltage adjustment layer.

319. The EL laminate as set forth claim 289, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold voltage which the patterned phosphor structure would have without the threshold voltage adjustment layer.

320. The EL laminate as set forth claim 317, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold voltage which the patterned phosphor structure would have without the threshold voltage adjustment layer.

321. The EL laminate as set forth in claim 320, wherein the threshold voltage adjustment layer is selected from the group consisting of binary metal oxides, binary metal sulfides, silica and silicon oxynitride.

322. The EL laminate as set forth in claim 320, wherein the threshold voltage adjustment layer is selected from the group consisting of alumina, tantalum oxide, zinc sulfide, strontium sulfide, silica and silicon oxynitride.

323. The EL laminate as set forth in claim 320, wherein the threshold voltage adjustment layer is selected from the group consisting of alumina and zinc sulfide.

324. The EL laminate as set forth in claim 320, wherein threshold voltage adjustment layer is matched with the at least first or second phosphor deposits, such that if the phosphor deposit is formed from a zinc sulfide phosphor, the threshold voltage adjustment layer, if needed with that phosphor deposit, is a binary metal oxide.

325. The EL laminate as set forth in claim 324, wherein the binary metal oxide is alumina when the phosphor deposit is one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3.

326. The EL laminate as set forth in claim 305, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities comprises an additional phosphor layer deposited in one or more of the positions of over, under and embedded within the at least first and second phosphor deposits, having a same or different

composition from the at least first and second phosphor deposits.

327. The EL laminate as set forth in claim 305, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue sub-pixel elements and a zinc sulfide phosphor providing the red and green sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material in one or more of the positions of over, under and embedded within the zinc sulfide phosphor deposits.

328. The EL laminate as set forth in claim 327, wherein the phosphors are SrS:Ce, which may be codoped with phosphorus, and $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3, and wherein the threshold voltage adjustment layer is a layer of alumina located over the $Zn_{1-x}Mg_xS$:Mn phosphor deposits.

329. The EL laminate as set forth in claim 305, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue sub-pixel elements and one or more layers of a zinc sulfide phosphor providing the red and green sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is the strontium sulfide phosphor deposits being formed thicker and wider than the zinc sulfide phosphor deposits.

330. The EL laminate as set forth in claim 329, wherein the phosphors are SrS:Ce for the blue sub-pixel elements, which may be codoped with phosphorus, and for the red and green sub-pixels, $Zn_{1-x}Mg_xS$:Mn between layers of ZnS:Mn, with x being between 0.1 and 0.3.

331. The EL laminate as set forth in claim 305, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue and green sub-pixel elements and a zinc sulfide phosphor providing the red sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material in one or more of the position of over, under and embedded within the zinc sulfide phosphor deposits.

332. The EL laminate as set forth in claim 331, wherein the phosphors are SrS:Ce, which may be codoped with phosphorus, and ZnS:Mn, and wherein the threshold voltage adjustment layer is a layer of alumina located over the ZnS:Mn phosphor deposits.

333. The EL laminate as set forth in claims 288, wherein the thick film dielectric layer is

formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

334. The EL laminate as set forth in claims 289, wherein the thick film dielectric layer is formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

335. The EL laminate as set forth in claims 294, wherein the thick film dielectric layer is formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

336. The EL laminate as set forth in claims 298, wherein the thick film dielectric layer is formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

337. The EL laminate as set forth in claims 305, wherein the thick film dielectric layer is formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

338. The EL laminate as set forth in claim 306, wherein the thick film dielectric layer is formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

339. The EL laminate as set forth in claim 328, wherein the thick film dielectric layer is formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

340. The EL laminate as set forth in claim 330, wherein the thick film dielectric layer is formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

341. The EL laminate as set forth in claim 332, wherein the thick film dielectric layer is

formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

342. The EL laminate as set forth in claim 337, wherein the dielectric layer has been pressed by cold isostatic pressing to reduce the thickness, after sintering, by about 20 to 50%.

343. The EL laminate as set forth in claim 341, wherein the dielectric layer has been pressed by cold isostatic pressing to reduce the thickness, after sintering, by about 20 to 50%.

344. The EL laminate as set forth in claim 343, wherein the pressed ceramic material has a reduced thickness, after sintering, of 30 to 40%.

345. The EL laminate as set forth in claim 344, wherein the pressed ceramic material has a thickness, after sintering, of between 10 and 50 μm.

346. The EL laminate as set forth in claim 344, wherein the pressed ceramic material has a thickness, after sintering, of between 10 and 20 μm.

347. The EL laminate as set forth in claim 346, wherein the ceramic material is a ferroelectric ceramic material having a dielectric constant greater than 500.

348. The EL laminate as set forth in claim 347, wherein the ceramic material has a perovskite crystal structure.

349. The EL laminate as set forth in claim 348, wherein the ceramic material is selected from the group consisting of one or more of $BaTiO_3$, $PbTiO_3$, PMN and PMN-PT.

350. The EL laminate as set forth in claim 348, wherein the ceramic material is selected from the group consisting of $BaTiO_3$, $PbTiO_3$, PMN and PMN-PT.

351. The EL laminate as set forth in claim 348, wherein the ceramic material is PMN-PT.

352. The EL laminate as set forth in claim 348, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

353. The EL laminate as set forth in claim 350, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

354. The EL laminate as set forth in claim 351, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

355. The EL laminate as set forth in claim 353, wherein the second ceramic material is a ferroelectric ceramic material deposited by sol gel techniques followed by heating to convert to a ceramic material.

356. The EL laminate as set forth in claim 355, wherein the second ceramic material has a

dielectric constant of at least 20 and a thickness of at least about 1 μm.

357. The EL laminate as set forth in claim 356, wherein the second ceramic material has a dielectric constant of at least 100.

358. The EL laminate as set forth in claim 357, wherein the second ceramic material has a thickness in the range of 1 to 3 μm.

359. The EL laminate as set forth in claim 358, wherein the second ceramic material is a ferroelectric ceramic material having a perovskite crystal structure.

360. The EL laminate as set forth in claim 359, wherein the second ceramic material is lead zirconium titanate or lead lanthanum zirconate titanate.

361. The EL laminate as set forth in claim 360, wherein the substrate and the rear electrode are formed from materials which can withstand temperatures of about 850°C.

362. The EL laminate as set forth in claim 361, wherein the substrate is an alumina sheet.

363. The EL laminate as set forth in claim 337, which further comprises, a diffusion barrier layer above the dielectric layer, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

364. The EL laminate as set forth in claim 353, which further comprises, a diffusion barrier layer above the second ceramic material, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

365. The EL laminate as set forth in claim 360, which further comprises, a diffusion barrier layer above the second ceramic material, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

366. The EL laminate as set forth in claim 365, wherein the diffusion barrier layer is formed from a compound which differs from its precise stoichiometric composition by less than 0.1 atomic percent.

367. The EL laminate as set forth in claim 366, wherein the diffusion barrier layer is formed from alumina, silica, or zinc sulfide.

368. The EL laminate as set forth in claim 366, wherein the diffusion barrier is formed from alumina.

369. The EL laminate as set forth in claim 367, wherein the diffusion barrier has a

thickness of 100 to 1000 Å.

370. The EL laminate as set forth in claim 368, wherein the diffusion barrier has a thickness of 100 to 1000 Å.

371. The EL laminate as set forth in claim 337, which further comprises, an injection layer above the dielectric layer to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

372. The EL laminate as set forth in claim 354, which further comprises, an injection layer above the second ceramic material to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

373. The EL laminate as set forth in claim 360, which further comprises, an injection layer above the second ceramic material to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

374. The EL laminate as set forth in claim 365, which further comprises, an injection layer above the diffusion barrier layer to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

375. The EL laminate as set forth in claim 371, wherein the injection layer is formed from a material which has greater than 0.5% atomic deviation from its stoichiometric composition.

376. The EL laminate as set forth in claim 375, wherein the injection layer is formed from hafnia or yttria.

377. The EL laminate as set forth in claim 376, wherein the injection layer has a thickness of 100 to 1000 Å.

378. The EL laminate as set forth in claim 374, wherein an injection layer of hafnia is included with a phosphor formed from a zinc sulfide phosphor, and wherein a diffusion barrier layer of zinc sulfide is used with a phosphor formed from a strontium sulfide phosphor.

379. A method of forming a patterned phosphor structure having red, green and blue sub-pixel elements for an AC electroluminescent display, comprising:

selecting at least a first and a second phosphor, each emitting light in different ranges

of the visible spectrum, but whose combined emission spectra contains red, green and blue light;

depositing and patterning said at least first and second phosphors in a layer to form a plurality of repeating at least first and second phosphor deposits arranged in adjacent, repeating relationship to each other; and

providing one or more means associated with one or more of the at least first and second phosphor deposits, and which together with the at least first and second phosphor deposits, form the red, green and blue sub-pixel phosphor elements, for setting and equalizing the threshold voltages of the red, green and blue sub-pixel phosphor elements and for setting the relative luminosities of the red, green and blue sub-pixel elements so that they bear set ratios to one another at each modulation voltage used to generate the desired luminosities for red, green and blue; and

optionally annealing the patterned phosphor structure so formed.

380. The method as set forth in claim 379, wherein the at least first and second phosphor deposits are formed from phosphors of different host materials.

381. The method as set forth in claim 380, wherein the set luminosity ratios remain substantially constant over the range of operating modulation voltages.

382. The method as set forth in claim 381, wherein the set luminosities ratios between the red, green and blue sub-pixel phosphor elements are about 3:6:1.

383. The method as set forth in claim 380, wherein the patterning of the at least first and second phosphor is achieved by photolithographic techniques, including the steps of:

a) depositing a layer of a first phosphor which is to form at least one of the red, green or blue sub-pixel elements;

b) removing the first phosphor in regions which are to define the other of the red, green or blue sub-pixel elements, leaving spaced first phosphor deposits;

c) depositing the second phosphor material over the first phosphor deposits and in regions which are to define the other of the red, green and blue sub-pixel elements; and

d) removing the second phosphor material from above the first phosphor deposits leaving a plurality of repeating first and second phosphor deposits arranged in adjacent, repeating relationship to each other.

384. The method as set forth in claim 381, wherein the patterning of the at least first and second phosphor is achieved by photolithographic techniques, including the steps of:

a) depositing a layer of a first phosphor which is to form at least one of the red, green or blue sub-pixel elements;

b) removing the first phosphor in regions which are to define the other of the red, green or blue sub-pixel elements, leaving spaced first phosphor deposits;

c) depositing the second phosphor material over the first phosphor deposits and in regions which are to define the other of the red, green and blue sub-pixel elements; and

d) removing the second phosphor material from above the first phosphor deposits leaving a plurality of repeating first and second phosphor deposits arranged in adjacent, repeating relationship to each other.

385. The method as set forth in claim 382, wherein the patterning of the at least first and second phosphor is achieved by photolithographic techniques, including the steps of:

a) depositing a layer of a first phosphor which is to form at least one of the red, green or blue sub-pixel elements;

b) removing the first phosphor in regions which are to define the other of the red, green or blue sub-pixel elements, leaving spaced first phosphor deposits;

c) depositing the second phosphor material over the first phosphor deposits and in regions which are to define the other of the red, green and blue sub-pixel elements; and

d) removing the second phosphor material from above the first phosphor deposits leaving a plurality of repeating first and second phosphor deposits arranged in adjacent, repeating relationship to each other.

386. The method as set forth in claim 385, wherein step b) includes:

applying a photo-resist to the first phosphor, exposing the photo-resist through a photo-mask, developing the photo-resist, removing the first phosphor in regions that first phosphor is to define as one or more of the red, green and blue sub-pixel elements;

and wherein step d) includes:

removing by lift-off, the second phosphor and the resist from above the first phosphor deposits.

387. The method as set forth in claim 386, wherein the photo-resist in step b) is a negative resist that is exposed in the regions that the first phosphor is to define as one or more of the red, green and blue sub-pixel elements.

388. The method as set forth in claim 387, wherein the patterning is achieved with only one photo-mask.

389. The method as set forth in claim 380, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material deposited in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

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390. The method as set forth in claim 381, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material deposited in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

391. The method as set forth in claim 382, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material deposited in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

392. The method as set forth in claim 387, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material deposited in one or more of the positions of over, under and embedded within one or more of the at least first and second phosphor deposits.

393. The method as set forth in claim 380, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being deposited with different thicknesses.

394. The method as set forth in claim 381, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being deposited with different thicknesses.

395. The method as set forth in claim 382, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being deposited with different thicknesses.

396. The method as set forth in claim 387, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being deposited with different thicknesses.

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397. The method as set forth in claim 392, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, comprises the at least first and second phosphor deposits being deposited with different thicknesses.

398. The method as set forth in claim 389, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

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399. The method as set forth in claim 390, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

400. The method as set forth in claim 391, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

401. The method as set forth in claim 392, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

402. The method as set forth in claim 393, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

403. The method as set forth in claim 394, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

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ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

404. The method as set forth in claim 395, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

405. The method as set forth in claim 396, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

406. The method as set forth in claim 397, wherein, the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, further comprises varying one or both of the following:

i. the areas of the phosphor deposits; and

ii. the concentrations of a dopant or co-dopant in the phosphor deposits.

407. The method as set forth in claim 406, wherein the at least first and second phosphor deposits include a zinc sulfide phosphor and a strontium sulfide phosphor.

408. The method as set forth in claim 407, wherein the blue sub-pixel elements, and optionally the green sub-pixel elements are formed with a strontium sulfide phosphor, and wherein the red sub-pixel elements, and optionally the green sub-pixel elements are formed from one or more zinc sulfide phosphors.

409. The method as set forth in claim 408, wherein the strontium sulfide phosphor is SrS:Ce and wherein the zinc sulfide phosphor is one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3.

410. The method as set forth in claim 407, wherein the first phosphor is SrS:Ce and the second phosphor is one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by depositing a further layer of SrS:Ce over the first and second phosphor deposits, whereby the blue sub-pixel elements are provided by SrS:Ce and the red and green sub-pixel elements are provided by SrS:Ce and one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn.

411. The method as set forth in claim 409, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities are provided by depositing a threshold voltage adjustment layer over one or more of the red and green sub-pixel phosphor deposits.

412. The method as set forth in claim 409, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by depositing the phosphor, and thus forming the phosphor deposits, with different thicknesses.

413. The method as set forth in claim 410, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by depositing the phosphor, and thus forming the phosphor deposits, with different thicknesses.

414. The method as set forth in claim 411, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by depositing the phosphor, and thus forming the phosphor deposits, with different thicknesses.

415. The method as set forth in claim 409, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by varying the areas of one or more of the sub-pixel phosphor deposits.

416. The method as set forth in claim 410, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by varying the areas of one or more of the sub-pixel phosphor deposits.

417. The method as set forth in claim 411, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by varying the areas of one or more of the sub-pixel phosphor deposits.

418. The method as set forth in claim 414, wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by varying the areas of one or more of the sub-pixel phosphor deposits.

419. The method as set forth claim 379, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, is provided by depositing over one or more of the red, green and blue sub-pixel deposits, a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold voltage which the patterned phosphor structure would have without the threshold voltage adjustment layer.

420. The method as set forth claim 380, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, is provided by depositing over one or more of the red, green and blue sub-pixel deposits, a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold voltage which the patterned phosphor structure would have without the threshold voltage adjustment layer.

421. The method as set forth claim 418, wherein the means for setting and equalizing the threshold voltages, and for setting the relative luminosities, is provided by depositing over one or more of the red, green and blue sub-pixel deposits, a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material, which, at its deposited thickness, does not conduct until the voltage across the patterned phosphor structure exceeds the threshold voltage which the patterned phosphor structure would have without the threshold voltage adjustment layer.

422. The method as set forth in claim 421, wherein the threshold voltage adjustment layer is selected from the group consisting of binary metal oxides, binary metal sulfides, silica and silicon oxynitride.

423. The method as set forth in claim 421, wherein the threshold voltage adjustment layer is selected from the group consisting of alumina, tantalum oxide, zinc sulfide, strontium sulfide, silica and silicon oxynitride.

424. The method as set forth in claim 421, wherein the threshold voltage adjustment layer is selected from the group consisting of alumina and zinc sulfide.

425. The method as set forth in claim 421, wherein threshold voltage adjustment layer is matched with the at least first or second phosphor deposits, such that if the phosphor deposit is formed from a zinc sulfide phosphor, the threshold voltage adjustment layer, if needed with that phosphor deposit, is a binary metal oxide, and if the phosphor deposit is formed from a strontium sulfide phosphor, the threshold voltage adjustment layer, if needed with that phosphor deposit, is a binary metal sulfide.

426. The method as set forth in claim 425, wherein the binary metal oxide is alumina when the phosphor deposit is one or more of ZnS:Mn or $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3.

427. The method as set forth in claim 406, wherein the means for setting and equalizing the

threshold voltages and for setting the relative luminosities comprises an additional phosphor layer deposited in one or more of the positions of over, under and embedded within the at least first and second phosphor deposits, having a same or different composition from the at least first and second phosphor deposits.

428. The method as set forth in claim 406, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue sub-pixel elements and a zinc sulfide phosphor providing the red and green sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by depositing a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material in one or more of the positions of over, under and embedded within the zinc sulfide phosphor deposits.

429. The method as set forth in claim 428, wherein the phosphors are SrS:Ce, which may be codoped with phosphorus, and $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3, and wherein the threshold voltage adjustment layer is a layer of alumina deposited over the $Zn_{1-x}Mg_xS$:Mn phosphor deposits.

430. The method as set forth in claim 406, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue sub-pixel elements and one or more layers of a zinc sulfide phosphor providing the red and green sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by forming the strontium sulfide phosphor deposits thicker and wider than and the zinc sulfide phosphor deposits.

431. The method as set forth in claim 430, wherein the phosphors are SrS:Ce for the blue sub-pixel elements, which may be codoped with phosphorus, and for the red and green sub-pixels, $Zn_{1-x}Mg_xS$:Mn between layers of ZnS:Mn, with x being between 0.1 and 0.3.

432. The method as set forth in claim 406, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue and green sub-pixel elements and a zinc sulfide phosphor providing the red sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and for setting the relative luminosities is provided by depositing a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material in one or more of the positions of over, under and embedded within the zinc sulfide phosphor deposits.

433. The method as set forth in claim 432, wherein the phosphors are SrS:Ce, which may

be codoped with phosphorus, and ZnS:Mn, and wherein the threshold voltage adjustment layer is a layer of alumina deposited over the ZnS:Mn phosphor deposits.

434. The method as set forth in claims 387, wherein one or both of the first and second phosphors is susceptible to hydrolysis, wherein the negative resist is a polyisoprene-based resist, wherein the first phosphor is removed with an acid etchant solution, and wherein the second phosphor is removed with a non-aqueous, predominately polar, aprotic solvent solution.

435. The method as set forth in claim 434, wherein the first and second phosphor deposits are a strontium sulfide phosphor and a zinc sulfide phosphor, and wherein the predominately polar, aprotic solvent solution is toluene, with a minor amount of methanol.

436. The method as set forth in claim 435, wherein the first and second phosphor deposits are patterned in a layer from SrS:Ce and ZnS:Mn, and an additional phosphor layer of SrS:Ce is deposited over the patterned layer such that, the SrS:Ce deposits form the blue sub-pixel elements, and the ZnS:Mn deposits overlaid with the SrS:Ce deposits form the red and green sub-pixel elements, the patterning being achieved by:

a) depositing a layer of the SrS:Ce which is to form the blue sub-pixel elements;

b) applying the negative photoresist on the SrS:Ce, exposing the photoresist in those regions which are to form the blue sub-pixel elements, and removing the SrS:Ce and the unexposed photoresist in those regions which are to define the red and green sub-pixel elements, leaving spaced SrS:Ce deposit;

c) depositing the ZnS:Mn to cover both the SrS:Ce deposits and the regions where the SrS:Ce has been removed;

d) optionally depositing an injection layer;

e) removing by lift-off, the ZnS:Mn, the photoresist and the optional injection layer in the regions above SrS:Ce, to form a plurality of repeating first and second phosphor deposits arranged in adjacent, repeating relationship to each other; and

f) providing the means for setting and equalizing the threshold voltages and setting the relative luminosities by depositing an additional layer of SrS:Ce over the first and second phosphor deposits.

437. The method as set forth in claim 435, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue sub-pixel elements and a zinc sulfide phosphor providing the red and green sub-pixel elements, and wherein the means for setting

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and equalizing the threshold voltages is a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material deposited in one or more of the positions of over, under and embedded within the zinc sulfide phosphor deposits.

438. The method as set forth in claim 437, wherein the phosphors are SrS:Ce, which may be codoped with phosphorus, and $Zn_{1-x}Mg_xS$:Mn, with x being between 0.1 and 0.3, wherein the threshold voltage adjustment layer is a layer of alumina deposited over the $Zn_{1-x}Mg_xS$:Mn phosphor, and wherein the patterning is achieved by:

a) depositing a layer of the SrS:Ce which is to form the blue sub-pixel elements;

b) applying the negative photoresist on the SrS:Ce, exposing the photoresist in those regions which are to form the blue sub-pixel elements, and removing the SrS:Ce and the unexposed photoresist in those regions which are to define the red and green sub-pixel elements, leaving spaced SrS:Ce deposits;

c) depositing the $Zn_{1-x}Mg_xS$:Mn to cover both the SrS:Ce deposits and the regions where the SrS:Ce has been removed;

d) optionally depositing an injection layer;

e) depositing the threshold voltage adjustment layer above the $Zn_{1-x}Mg_xS$:Mn; and

e) removing by lift-off, the $Zn_{1-x}Mg_xS$:Mn, the photoresist, the threshold voltage adjustment layer, and the optional injection layer in the regions above SrS:Ce, to form a plurality of repeating first and second phosphor deposits arranged in adjacent, repeating relationship to each other.

439. The method as set forth in claim 435, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue sub-pixel elements and a zinc sulfide phosphor providing the red and green sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages and setting the relative luminosities is provided by forming the strontium sulfide phosphor deposits thicker and with greater area than the zinc sulfide phosphor deposits.

440. The method as set forth in claim 439, wherein the phosphors are SrS:Ce, which may be codoped with phosphorus, and $Zn_{1-x}Mg_xS$:Mn between layers of ZnS:Mn, with x being between 0.1 and 0.3, and wherein the patterning is achieved by:

a) depositing a layer of the SrS:Ce which is to form the blue sub-pixel elements;

b) applying the negative photoresist on the SrS:Ce, exposing the photoresist in those

regions which are to form the blue sub-pixel elements, and removing the SrS:Ce and the unexposed photoresist in those regions which are to define the red and green sub-pixel elements, leaving spaced SrS:Ce deposits;

c) depositing the a layer of ZnS:Mn, then a layer of $Zn_{1-x}Mg_xS$:Mn, and then a layer of ZnS:Mn to cover both the SrS:Ce deposits and the regions where the SrS:Ce has been removed;

d) optionally depositing an injection layer;

e) removing by lift-off, the ZnS:Mn and the $Zn_{1-x}Mg_xS$:Mn, the photoresist, and the optional injection layer in the regions above SrS:Ce, to form a plurality of repeating first and second phosphor deposits arranged in adjacent, repeating relationship to each other.

441. The method as set forth in claim 435, wherein the first and second phosphor deposits are a strontium sulfide phosphor providing the blue and green sub-pixel elements and a zinc sulfide phosphor providing the red sub-pixel elements, and wherein the means for setting and equalizing the threshold voltages is provided by depositing a threshold voltage adjustment layer selected from the group consisting of one or more of a dielectric material or a semiconductor material in one or more of the positions of over, under and embedded within the zinc sulfide phosphor deposits.

442. The method as set forth in claim 441, wherein the phosphors are SrS:Ce, which may be codoped with phosphorus, and ZnS:Mn, wherein the threshold voltage adjustment layer is a layer of alumina located over the ZnS:Mn phosphor, and wherein the patterning is achieved by:

a) depositing a layer of the SrS:Ce which is to form the blue and green sub-pixel elements;

b) applying the negative photoresist on the SrS:Ce, exposing the photoresist in those regions which are to form the blue and green sub-pixel elements, and removing the SrS:Ce and the unexposed photoresist in those regions which are to define the red sub-pixel elements, leaving spaced SrS:Ce deposits for the blue and green sub-pixel elements which are wider than the regions left for the red sub-pixel elements;

c) depositing an optional layer of alumina as a barrier diffusion layer;

d) depositing the ZnS:Mn to cover both the SrS:Ce deposits and the regions where the SrS:Ce has been removed;

e) depositing the threshold voltage adjustment layer above the Zn:S:Mn; and

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f) removing by lift-off, the optional barrier diffusion layer, the ZnS:Mn, the photoresist, and the threshold voltage adjustment layer in the regions above SrS:Ce, to form a plurality of repeating first and second phosphor deposits arranged in adjacent, repeating relationship to each other.

443. A method of forming a thick film dielectric layer in an EL laminate of the type including one or more phosphor layers sandwiched between a front and a rear electrode, the phosphor layer being separated from the rear electrode by the thick film dielectric layer, comprising:

depositing a ceramic material in one or more layers by a thick film technique to form a dielectric layer having a thickness of 10 to 300 μm;

pressing the dielectric layer to form a densified layer with reduced porosity and surface roughness; and

sintering the dielectric layer to form a pressed, sintered dielectric layer which, in an EL laminate, has an improved uniform luminosity over an unpressed, sintered dielectric layer of the same composition.

444. The method as set forth in claim 443, wherein the dielectric layer is deposited on a rigid substrate providing the rear electrode.

445. The method as set forth in claim 443, wherein the pressing is isostatic pressing.

446. The method as set forth in claim 444, wherein the pressing is cold isostatic pressing at up to 350,000 kPa to reduce the thickness of the dielectric layer, after sintering, by about 20 to 50%.

447. The method as set forth in claim 446, wherein the ceramic material is deposited by screen printing, in one or more layers, and is dried prior to pressing.

448. The method as set forth in claim 447, wherein the ceramic material is pressed to reduce the thickness, after sintering, by 30 to 40%.

449. The method as set forth in claim 448, wherein the ceramic material is pressed to a thickness, after sintering, of between 10 and 50 μm.

450. The method as set forth in claim 448, wherein the ceramic material is pressed to a thickness, after sintering, of between 10 and 20 μm.

451. The method as set forth in claim 450, wherein the dielectric layer has a deposited thickness of 20 to 50 μm.

452. The method as set forth in claim 450, wherein the ceramic material is a ferroelectric

ceramic material having a dielectric constant greater than 500.

453. The method as set forth in claim 451, wherein the ceramic material is a ferroelectric ceramic material having a dielectric constant greater than 500.

454. The method as set forth in claim 453, wherein the ceramic material has a perovskite crystal structure.

455. The method as set forth in claim 454, wherein the ceramic material is selected from the group consisting of one or more of $BaTiO_3$, $PbTiO_3$, PMN and PMN-PT.

456. The method as set forth in claim 454, wherein the ceramic material is selected from the group consisting of $BaTiO_3$, $PbTiO_3$, PMN and PMN-PT.

457. The method as set forth in claim 456, wherein the ceramic material is PMN-PT.

458. The method as set forth in claim 455, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

459. The method as set forth in claim 456, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

460. The method as set forth in claim 457, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

461. The method as set forth in claim 459, wherein the second ceramic material is a ferroelectric ceramic material which is deposited by a sol gel technique to form a sol gel layer.

462. The method as set forth in claim 461, wherein the second ceramic material has a dielectric constant of at least 20 and a thickness of at least about 1 μm.

463. The method as set forth in claim 462, wherein the second ceramic material has a dielectric constant of at least 100.

464. The method as set forth in claim 463, wherein the second ceramic material has a thickness in the range of 1 to 3 μm.

465. The method as set forth in claim 464, wherein the second ceramic material is deposited by a sol gel techniques selected from spin deposition or dipping, followed by heating to convert to a ceramic material.

466. The method as set forth in claim 465, wherein the second ceramic material is a ferroelectric ceramic material having a perovskite crystal structure.

467. The method as set forth in claim 466, wherein the second ceramic material is lead zirconium titanate or lead lanthanum zirconate titanate.

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468. The method as set forth in claim 443, which further comprises, prior to forming the dielectric layer, providing a substrate having sufficient rigidity to support the laminate, and forming the rear electrode on the substrate.

469. The method as set forth in claim 460, which further comprises, prior to forming the dielectric layer, providing a substrate having sufficient rigidity to support the laminate, and forming the rear electrode on the substrate.

470. The method as set forth in claim 467, which further comprises, prior to forming the dielectric layer, providing a substrate having sufficient rigidity to support the laminate, and forming the rear electrode on the substrate.

471. The method as set forth in claim 470, wherein the substrate and the rear electrode are formed from materials which can withstand temperatures of about 850°C.

472. The method as set forth in claim 471, wherein the substrate is an alumina sheet.

473. The method as set forth in claim 443, which further comprises, depositing a diffusion barrier layer above the dielectric layer, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

474. The method as set forth in claim 460, which further comprises, depositing a diffusion barrier layer above the second ceramic material, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

475. The method as set forth in claim 472, which further comprises, depositing a diffusion barrier layer above the second ceramic material, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

476. The method as set forth in claim 475, wherein the diffusion barrier layer is formed from a compound which differs from its precise stoichiometric composition by less than 0.1 atomic percent.

477. The method as set forth in claim 476, wherein the diffusion barrier layer is formed from alumina, silica, or zinc sulfide.

478. The method as set forth in claim 477, wherein the diffusion barrier is formed from alumina.

479. The method as set forth in claim 478, wherein the diffusion barrier has a thickness of

100 to 1000 Å.

480. The method as set forth in claim 443, which further comprises, depositing an injection layer above the dielectric layer to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

481. The method as set forth in claim 460, which further comprises, depositing an injection layer above the second ceramic material to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

482. The method as set forth in claim 475, which further comprises, depositing an injection layer above the diffusion barrier layer, to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

483. The method as set forth in claim 480, wherein the injection layer is formed from a material which has greater than 0.5% atomic deviation from its stoichiometric composition.

484. The method as set forth in claim 483, wherein the injection layer is formed from hafnia or yttria.

485. The method as set forth in claim 484, wherein the injection layer has a thickness of 100 to 1000 Å.

486. The method as set forth in claim 482, wherein the injection layer is hafnia when the phosphor is a zinc sulfide phosphor, and wherein a diffusion barrier layer of zinc sulfide is used with a strontium sulfide phosphor.

487. A combined substrate and dielectric layer component for use in an EL laminate, comprising:

a substrate providing a rear electrode; and

a thick film dielectric layer formed on the substrate from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

488. The combined substrate and dielectric layer component as set forth in claim 487, formed on a rigid substrate providing a rear electrode.

489. The combined substrate and dielectric layer component as set forth in claim 488, wherein the dielectric layer has been pressed by cold isostatic pressing to reduce the

thickness, after sintering, by about 20 to 50%.

490. The combined substrate and dielectric layer component as set forth in claim 489, wherein the pressed ceramic material has a reduced thickness, after sintering, of 30 to 40%.

491. The combined substrate and dielectric layer component as set forth in claim 490, wherein the pressed ceramic material has a thickness, after sintering, of between 10 and 50 μm.

492. The combined substrate and dielectric layer component as set forth in claim 490, wherein the pressed ceramic material has a thickness, after sintering, of between 10 and 20 μm.

493. The combined substrate and dielectric layer component as set forth in claim 492, wherein the ceramic material is a ferroelectric ceramic material having a dielectric constant greater than 500.

494. The combined substrate and dielectric layer component as set forth in claim 493, wherein the ceramic material has a perovskite crystal structure.

495. The combined substrate and dielectric layer component as set forth in claim 494, wherein the ceramic material is selected from the group consisting of one or more of $BaTiO_3$, $PbTiO_3$, PMN and PMN-PT.

496. The combined substrate and dielectric layer component as set forth in claim 494, wherein the ceramic material is selected from the group consisting of $BaTiO_3$, $PbTiO_3$, PMN and PMN-PT.

497. The combined substrate and dielectric layer component as set forth in claim 494, wherein the ceramic material is PMN-PT.

498. The combined substrate and dielectric layer component as set forth in claim 495, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

499. The combined substrate and dielectric layer component as set forth in claim 496, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

500. The combined substrate and dielectric layer component as set forth in claim 497, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

501. The combined substrate and dielectric layer component as set forth in claim 499,

wherein the second ceramic material is a ferroelectric ceramic material deposited by sol gel techniques followed by heating to convert to a ceramic material.

502. The combined substrate and dielectric layer component as set forth in claim 501, wherein the second ceramic material has a dielectric constant of at least 20 and a thickness of at least about 1 μm.

503. The combined substrate and dielectric layer component as set forth in claim 502, wherein the second ceramic material has a dielectric constant of at least 100.

504. The combined substrate and dielectric layer component as set forth in claim 503, wherein the second ceramic material has a thickness in the range of 1 to 3 μm.

505. The combined substrate and dielectric layer component as set forth in claim 504, wherein the second ceramic material is a ferroelectric ceramic material having a perovskite crystal structure.

506. The combined substrate and dielectric layer component as set forth in claim 505, wherein the second ceramic material is lead zirconium titanate or lead lanthanum zirconate titanate.

507. The combined substrate and dielectric layer component as set forth in claim 487, wherein the combined substrate and dielectric layer component is formed on a rigid substrate, on which is formed the rear electrode.

508. The combined substrate and dielectric layer component as set forth in claim 500, wherein the combined substrate and dielectric layer component is formed on a rigid substrate, on which is formed the rear electrode.

509. The combined substrate and dielectric layer component as set forth in claim 506, wherein the combined substrate and dielectric layer component is formed on a rigid substrate, on which is formed the rear electrode.

510. The combined substrate and dielectric layer component as set forth in claim 509, wherein the substrate and the rear electrode are formed from materials which can withstand temperatures of about 850°C.

511. The combined substrate and dielectric layer component as set forth in claim 510, wherein the substrate is an alumina sheet.

512. The combined substrate and dielectric layer component as set forth in claim 487, which further comprises, a diffusion barrier layer above the dielectric layer, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that

is chemically compatible with any adjacent layers and which is precisely stoichiometric.

513. The combined substrate and dielectric layer component as set forth in claim 499, which further comprises, a diffusion barrier layer or above the second ceramic material, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

514. The combined substrate and dielectric layer component as set forth in claim 509, which further comprises, a diffusion barrier layer above the second ceramic material, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

515. The combined substrate and dielectric layer component as set forth in claim 514, wherein the diffusion barrier layer is formed from a compound which differs from its precise stoichiometric composition by less than 0.1 atomic percent.

516. The combined substrate and dielectric layer component as set forth in claim 515, wherein the diffusion barrier layer is formed from alumina, silica, or zinc sulfide.

517. The combined substrate and dielectric layer component as set forth in claim 515, wherein the diffusion barrier is formed from alumina.

518. The combined substrate and dielectric layer component as set forth in claim 516, wherein the diffusion barrier has a thickness of 100 to 1000 Å.

519. The combined substrate and dielectric layer component as set forth in claim 517, wherein the diffusion barrier has a thickness of 100 to 1000 Å.

520. The combined substrate and dielectric layer component as set forth in claim 487, which further comprises, an injection layer above the dielectric layer to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

521. The combined substrate and dielectric layer component as set forth in claim 500, which further comprises, an injection layer above the second ceramic material to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

522. The combined substrate and dielectric layer component as set forth in claim 509,

which further comprises, an injection layer above the second ceramic material to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

523. The combined substrate and dielectric layer component as set forth in claim 514, which further comprises, an injection layer above the diffusion barrier layer to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

524. The combined substrate and dielectric layer component as set forth in claim 520, wherein the injection layer is formed from a material which has greater than 0.5% atomic deviation from its stoichiometric composition.

525. The combined substrate and dielectric layer component as set forth in claim 524, wherein the injection layer is formed from hafnia or yttria.

526. The combined substrate and dielectric layer component as set forth in claim 525, wherein the injection layer has a thickness of 100 to 1000 Å.

527. The combined substrate and dielectric layer component as set forth in claim 524, wherein the injection layer is hafnia with a zinc sulfide phosphor, and wherein a diffusion barrier layer of zinc sulfide is used with a strontium sulfide phosphor.

528. The combined substrate and dielectric layer component as set forth in claim 526, wherein the injection layer is hafnia with a zinc sulfide phosphor, and wherein a diffusion barrier layer of zinc sulfide is used with a strontium sulfide phosphor.

529. An EL laminate, comprising:

a planar phosphor layer;

a front and rear planar electrode on either side of the phosphor layer;

a rear substrate providing the rear electrode, the rear substrate having sufficient rigidity to support the laminate; and

a thick film dielectric layer on the rigid substrate providing the rear electrode, the thick film dielectric layer being formed from a pressed, sintered ceramic material having, compared to an unpressed, sintered dielectric layer of the same composition, improved dielectric strength, reduced porosity and uniform luminosity in an EL laminate.

530. The EL laminate as set forth in claim 529, formed on a rigid substrate providing a rear

electrode.

531. The EL laminate as set forth in claim 529, wherein the dielectric layer has been pressed by cold isostatic pressing to reduce the thickness, after sintering, by about 20 to 50%.

532. The EL laminate as set forth in claim 530, wherein the dielectric layer has been pressed by cold isostatic pressing to reduce the thickness, after sintering, by about 20 to 50%.

533. The EL laminate as set forth in claim 532, wherein the pressed ceramic material has a reduced thickness, after sintering, of 30 to 40%.

534. The EL laminate as set forth in claim 533, wherein the pressed ceramic material has a thickness, after sintering, of between 10 and 50 μm.

535. The EL laminate as set forth in claim 533, wherein the pressed ceramic material has a thickness, after sintering, of between 10 and 20 μm.

536. The EL laminate as set forth in claim 535, wherein the ceramic material is a ferroelectric ceramic material having a dielectric constant greater than 500.

537. The EL laminate as set forth in claim 536, wherein the ceramic material has a perovskite crystal structure.

538. The EL laminate as set forth in claim 537, wherein the ceramic material is selected from the group consisting of one or more of $BaTiO_3$, $PbTiO_3$, PMN and PMN-PT.

539. The EL laminate as set forth in claim 537, wherein the ceramic material is selected from the group consisting of $BaTiO_3$, $PbTiO_3$, PMN and PMN-PT.

540. The EL laminate as set forth in claim 537, wherein the ceramic material is PMN-PT.

541. The EL laminate as set forth in claim 538, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

542. The EL laminate as set forth in claim 539, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

543. The EL laminate as set forth in claim 540, wherein a second ceramic material is formed on the pressed, sintered dielectric layer to further smooth the surface.

544. The EL laminate as set forth in claim 542, wherein the second ceramic material is a ferroelectric ceramic material deposited by sol gel techniques followed by heating to convert to a ceramic material.

545. The EL laminate as set forth in claim 544, wherein the second ceramic material has a dielectric constant of at least 20 and a thickness of at least about 1 μm.

546. The EL laminate as set forth in claim 545, wherein the second ceramic material has a

dielectric constant of at least 100.

547. The EL laminate as set forth in claim 546, wherein the second ceramic material has a thickness in the range of 1 to 3 μm.

548. The EL laminate as set forth in claim 547, wherein the second ceramic material is a ferroelectric ceramic material having a perovskite crystal structure.

549. The EL laminate as set forth in claim 548, wherein the second ceramic material is lead zirconium titanate or lead lanthanum zirconate titanate.

550. The EL laminate as set forth in claim 529, wherein the EL laminate is formed on a rigid substrate, on which is formed the rear electrode.

551. The EL laminate as set forth in claim 542, wherein the EL laminate is formed on a rigid substrate, on which is formed the rear electrode.

552. The EL laminate as set forth in claim 549, wherein the EL laminate is formed on a rigid substrate, on which is formed the rear electrode.

553. The EL laminate as set forth in claim 552, wherein the substrate and the rear electrode are formed from materials which can withstand temperatures of about 850°C.

554. The EL laminate as set forth in claim 553, wherein the substrate is an alumina sheet.

555. The EL laminate as set forth in claim 529, which further comprises, a diffusion barrier layer above the dielectric layer, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

556. The EL laminate as set forth in claim 542, which further comprises, a diffusion barrier layer above the second ceramic material, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

557. The EL laminate as set forth in claim 552, which further comprises, a diffusion barrier layer above the second ceramic material, which diffusion barrier layer is composed of a metal-containing electrically insulating binary compound that is chemically compatible with any adjacent layers and which is precisely stoichiometric.

558. The EL laminate as set forth in claim 557, wherein the diffusion barrier layer is formed from a compound which differs from its precise stoichiometric composition by less than 0.1 atomic percent.

559. The EL laminate as set forth in claim 558, wherein the diffusion barrier layer is

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formed from alumina, silica, or zinc sulfide.

560. The EL laminate as set forth in claim 558, wherein the diffusion barrier is formed from alumina.

561. The EL laminate as set forth in claim 559, wherein the diffusion barrier has a thickness of 100 to 1000 Å.

562. The EL laminate as set forth in claim 560, wherein the diffusion barrier has a thickness of 100 to 1000 Å.

563. The EL laminate as set forth in claim 529, which further comprises, an injection layer above the dielectric layer to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

564. The EL laminate as set forth in claim 542, which further comprises, an injection layer above the second ceramic material to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

565. The EL laminate as set forth in claim 552, which further comprises, an injection layer above the second ceramic material to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

566. The EL laminate as set forth in claim 557, which further comprises, an injection layer above the diffusion barrier layer to provide a phosphor interface, composed of a binary, dielectric material which is non-stoichiometric in its composition and having electrons in a range of energy for injection into the phosphor layer.

567. The EL laminate as set forth in claim 563, wherein the injection layer is formed from a material which has greater than 0.5% atomic deviation from its stoichiometric composition.

568. The EL laminate as set forth in claim 567, wherein the injection layer is formed from hafnia or yttria.

569. The EL laminate as set forth in claim 568, wherein the injection layer has a thickness of 100 to 1000 Å.

570. The EL laminate as set forth in claim 567, wherein the injection layer is hafnia with a zinc sulfide phosphor, and wherein a diffusion barrier layer of zinc sulfide is used with a strontium sulfide phosphor.

571. The EL laminate as set forth in claim 569, wherein the injection layer is hafnia with a zinc sulfide phosphor, and wherein a diffusion barrier layer of zinc sulfide is used with a strontium sulfide phosphor.

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572. A method of synthesizing strontium sulfide, comprising:

providing a source of high purity strontium carbonate in a dispersed form;

heating the strontium carbonate in a reactor with gradual heating up to a maximum temperature in the range of 800 to 1200°C;

contacting the heated strontium carbonate with a flow of sulfur vapours formed by heating elemental sulfur in the reactor to at least 300°C in an inert atmosphere; and

terminating the reaction by stopping the flow of sulfur at a point when sulfur dioxide or carbon dioxide in the reaction gas reaches an amount which correlates with an amount of oxygen in oxygen-containing strontium compounds in the reaction product which is in the range of 1 to 10 atomic percent.

573. The method as set forth in claim 572, wherein the sulfur is heated in the temperature range of 360 to 440°C.

574. The method as set forth in claim 572, wherein the strontium carbonate is provided in a dispersed form by mixing with one or more volatile, non-contaminating, clean evaporating compounds which decompose into gaseous products prior to the onset of the reaction of strontium carbonate.

575. The method as set forth in claim 573, wherein the strontium carbonate is provided in a dispersed form by mixing with one or more volatile, non-contaminating, clean evaporating compounds which decompose into gaseous products prior to the onset of the reaction of strontium carbonate.

576. The method as set forth in claim 575, wherein the volatile compound is selected from the group consisting of elemental sulfur and ammonium carbonate included in a weight ratio with strontium carbonate in the range of 1:9 to 1:1.

577. The method as set forth in claim 572, wherein the source of high purity strontium carbonate is doped with a source of cerium in the range of 0.01 to 0.35 mole%.

578. The method as set forth in claim 576, wherein the source of high purity strontium carbonate is doped with a source of cerium in the range of 0.01 to 0.35 mole%.

579. The method as set forth in claim 407, wherein the strontium sulfide phosphor is synthesized by a method comprising:

providing a source of high purity strontium carbonate in a dispersed form;

heating the strontium carbonate in a reactor with gradual heating up to a maximum temperature in the range of 800 to 1200°C;

contacting the heated strontium carbonate with a flow of sulfur vapours formed by heating elemental sulfur in the reactor to at least 300°C in an inert atmosphere; and

terminating the reaction by stopping the flow of sulfur at a point when sulfur dioxide or carbon dioxide in the reaction gas reaches an amount which correlates with an amount of oxygen in oxygen-containing strontium compounds in the reaction product which is in the range of 1 to 10 atomic percent.

580. The method as set forth in claim 579, wherein the sulfur is heated in the temperature range of 360 to 440°C.

581. The method as set forth in claim 579, wherein the strontium carbonate is provided in a dispersed form by mixing with one or more volatile, non-contaminating, clean evaporating compounds which decompose into gaseous products prior to the onset of the reaction of strontium carbonate.

582. The method as set forth in claim 580, wherein the strontium carbonate is provided in a dispersed form by mixing with one or more volatile, non-contaminating, clean evaporating compounds which decompose into gaseous products prior to the onset of the reaction of strontium carbonate.

583. The method as set forth in claim 582, wherein the volatile compound is selected from the group consisting of elemental sulfur and ammonium carbonate included in a weight ratio with strontium carbonate in the range of 1:9 to 1:1.

584. The method as set forth in claim 579, wherein the source of high purity strontium carbonate is doped with a source of cerium in the range of 0.01 to 0.35 mole%.

585. The method as set forth in claim 583, wherein the source of high purity strontium carbonate is doped with a source of cerium in the range of 0.01 to 0.35 mole%.

586. A method of forming a patterned phosphor structure having red, green and blue sub-pixel elements for an AC electroluminescent display, comprising:

a) selecting at least a first and a second phosphor, each emitting light in different ranges of the visible spectrum, but whose combined emission spectra contains red, green and blue light;

b) depositing a layer of the first phosphor which is to form at least one of the red,

green or blue sub-pixel elements;

c) applying a photo-resist to the first phosphor, exposing the photo-resist through a photo-mask, developing the photo-resist, and removing the first phosphor in regions that the first phosphor is to define as one or more of the red, green and blue sub-pixel elements, leaving spaced first phosphor deposits, wherein the first phosphor is removed with an etchant solution comprising a mineral acid, or a source of anions of a mineral acid, in a non-aqueous, polar, organic solvent which solubilizes the reaction product of the first phosphor with anions of the mineral acid, and wherein optionally, prior to removing the first phosphor with the etchant solution, the first phosphor layer is immersed in the non-aqueous organic solvent;

d) depositing the second phosphor material over the first phosphor deposits and in regions which are to define the other of the red, green and blue sub-pixel elements; and

e) removing by lift-off, the second phosphor material and the resist from above the first phosphor deposits leaving a plurality of repeating first and second phosphor deposits arranged in adjacent, repeating relationship to each other.

587. The method as set forth in claim 586, wherein the lift-off step is accomplished using a non-aqueous, predominately polar, aprotic solvent solution.

588. The method as set forth in claim 587, wherein at least one of the phosphors is an alkaline earth sulfide or selenide phosphor, and wherein the etchant solution is a mineral acid in methanol.

589. The method as set forth in claim 588, wherein the etchant solution includes an amount between 0.1 and 10% by volume of the mineral acid.

590. The method as set forth in claim 589, wherein the mineral acid is mineral acid is HCl or H_3PO_4 or mixtures of these acids.

591. The method as set forth in claim 589, wherein the photoresist is a negative resist.

592. The method as set forth in claim 590, wherein the photoresist is a negative resist.

593. The method as set forth in claim 592, wherein the photoresist is a polyisoprene-based photoresist.

594. The method as set forth in claim 589, wherein the lift-off is accomplished with a solution of methanol in toluene.

595. The method as set forth in claim 592, wherein the lift-off is accomplished with a solution of methanol in toluene.

596. The method as set forth in claim 593, wherein the lift-off is accomplished with a